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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Fereidoon Heydari

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EXAMINER

RODRIGUEZ, GLENDA P

ART UNIT

PAPER NUMBER

2627

DATE MAILED: 08/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/993,986

Applicant(s)

HEYDARI ET AL.

Examiner

Glenda P. Rodriguez

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-16, 19, 20 and 22-56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-16, 19, 20 and 22-56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Regarding Claims 1-5, 7-16, 19, 20, 22-29, they were deemed allowed in the previous Office Action, but now stand rejected due to newly found art.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 4, 5, 7-16, 19-20, 22-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leis et al. (US Patent No. 5, 862, 005).

Regarding Claim 1, Leis et al. teach a position-burst demodulator, comprising:

An input circuit operable to receive even and odd samples of a first servo position burst (Col. 14, L. 14-35, wherein the position bursts are misaligned by 90°. It is obvious to a person of ordinary skill in the art that when a sine wave, which is an odd function is offset by 90°, is then converted to a cosine function, which is even and then is obtains the even and odd samples from these even and odd functions), To add the even samples to generate a first sum (See Element 552 in Fig. 14B) and to add the odd samples to generate a second sum (See Element 554 in Fig. 14B);

An intermediate circuit coupled to the input circuit and operable to square the first and second sums (Elements 557 and 558 in Fig. 14B), and to add the squared first and second sums to generate a third sum (Element 559 in Fig. 14B);

And an output circuit coupled to the intermediate circuit and operable to calculate the square root of the third sum (Element 560 in Fig. 14B. See also Col. 9, L. 37-46, L. 62 to Col. 10, L. 1-4 and L. 47-Col. 11, L. 2).

Claim (4) has limitations similar to those treated in the above rejection, and is met by the references as discussed above. Claim (4) however also recites the following limitations: “wherein the samples are the first and second samples (Col. 14, L. 14-35, because the samples come from a sine wave, they are consecutive and hence it is obvious that the samples, when received and are separated by the 90° offset, a first and second samples will be received), and a difference circuit operable to calculate a difference between the square roots of the first and second sums (Element 559, Fig. 14B, wherein the squared values of the first and second samples are then added, wherein the different contributions of each sample are taken into consideration for demodulating the position burst).”.

Apparatus claims (5, 9, 10, 11 and 14) are drawn to the method of using the corresponding apparatus claimed in claim (1). Therefore apparatus claims (5, 9, 10, 11 and 14) correspond to apparatus claim (1) and are rejected for the same reasons of obviousness as used above.

Apparatus claim (8) is drawn to the method of using the corresponding apparatus claimed in claim (4). Therefore apparatus claim (8) corresponds to apparatus claim (4) and is rejected for the same reasons of obviousness as used above.

Method claims (16, 19, 20, 23, 26 and 27) are drawn to the method of using the corresponding apparatus claimed in claim (1). Therefore method claims (16, 19, 20, 23, 26 and

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27) correspond to apparatus claim (1) and are rejected for the same reasons of obviousness as used above.

Claims (12, 15, 28 and 29) have limitations similar to those treated in the above rejection, and is met by the references as discussed above. Claim (12, 15, 28 and 29) however also recites the following limitations: "calculate a head-position error signal from the sums of the even and odd samples of the first and second bursts only that the accuracy of the error signal is dependent of the timing of the samples with respect to the bursts (See Col. 14, L. 1-17, wherein it is able to detect the positional data for both time synchronous or non-synchronous formats)".

Method claim (24) is drawn to the method of using the corresponding apparatus claimed in claims (12, 15, 28 and 29). Therefore method claim (24) corresponds to apparatus claims (12, 15, 28 and 29) and is rejected for the same reasons of obviousness as used above.

Regarding Claims 2, 13, 22 and 25, Leis et al. teach all the limitations of Claims 1, 12, 20 and 24, respectively. Leis et al. further teach wherein the even and odd samples comprise consecutive samples (Col. 14, L. 5-13, wherein it teaches that the samples come from a sine wave, hence because a sine wave is a continuous function, the samples are consecutive from one another.).

Regarding Claims 7, 30, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53 and 55, Leis et al. teach all the limitations of Claims 5, 1, 8-10, 12, 15, 16, 20, 23, 24, 27, 28 and 29, respectively. Leis et al. further teach wherein the first adder is operable to add the magnitudes of the even samples together to generate the first sum and to add the magnitudes of the odd samples together to generate the second sum (See Fig. 14, Elements 557, 558 and 559).

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Regarding Claims 31, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54 and 56, Leis et al. teach all the limitations of Claims 1, 5, 8-10, 12, 15, 16, 23, 24, 27, 28 and 29, respectively. Leis et al. further teach wherein the input circuit is operable to invert every other even sample and add the inverted and non-inverted even samples to generate the first sum, and is operable to invert every other odd sample and add the inverted and non-inverted odd samples to generate the second sum (Col. 10, L. 47-63).

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leis et al. in view of Patapoutian et al. (US Patent No. 5, 661, 760). Cheung et al. teach all the limitations of Claims 1 and 16. Cheung et al. further teach wherein the first and second samples comprise average samples. However, this feature is well known in the art as disclosed by Patapoutian et al., wherein it teaches samples being averaged for detecting positioning errors (Pat. No. 5, 661, 760; Col. 8, Lines 45-51). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Cheung et al.'s invention in order to simplify the samples.

Response to Arguments

Examiner acknowledges that Applicant added Claims 30-56 in the Amendment dated 5/30/06.

Regarding Claims 1-5, 7-16, 19, 20, 22-29, they were deemed allowed in the previous Office Action, but now stand rejected due to newly found art.

Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glenda P. Rodriguez whose telephone number is (571) 272-7561. The examiner can normally be reached on Monday thru Thursday: 7:00-5:00; alternate Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on (571) 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



gpr
08/14/06.



WAYNE YOUNG
SUPERVISORY PATENT EXAMINER